

claims 12 and 14 are merely editorial and are not related to patentability or are in response to a rejection or objection. No new matter has been added.

It is respectfully submitted that all the claims submitted for reconsideration are in good formal order. Reconsideration and withdrawal of the rejection of claims 3 and 4 under 35 U.S.C. §112, second paragraph is therefore solicited.

The Examiner rejects claims 8, 9, and 11 under 35 U.S.C. 102 as being anticipated by an article by Cook. The Examiner indicates, however, that this rejection can be overcome by providing for a medium with a reflective layer or a substrate other than a glass slide. Responsive thereto applicants propose to restrict claim 8 to a process for the manufacturing of optical recording medium having a substrate other than glass, i.e. a homo- or copolymer, and to similarly restrict claim 9. This amendment is supported by the disclosure on page 18, 1st paragraph, and last paragraph, 2nd sentence. Applicants aver that entry of said amendment overcomes this ground of rejection.

The Examiner rejects claims 8-11 under 35 U.S.C. 103 as being unpatentable over Cook in view of published European Patent Application 811,506 (Kimura et al.) and U.S. Patent No. 5,124,067 (Itoh et al.). The Examiner asserts that EP '506 teaches the formation of optical recording media and that the addition of ferrocyanine moieties increases light resistance of the media. The Examiner asserts that Itoh teaches that optical recording media can be made using phthalocyanine dyes. The Examiner asserts that it would have been obvious to use the metallocenyl phthalocyanine dyes of Cook in place of the dyes used in EP '506.

Applicants respectfully submit that the combination of the teachings of Cook, Kimura and Itoh has been made by hindsight. It has not been shown that a person skilled in the art would indeed have been motivated to combine the cited prior art documents in such a way that he would have arrived at the present invention.

In particular: Cook teaches certain phthalocyanines *per se*, while Kimura and Itoh are directed to certain phthalocyanine metal complexes. This alone makes it improper to combine Cook with either Kimura or Itoh.

Kimura teaches phthalocyanines in which a ferrocenyl moiety is bound to a central aluminum atom. See phthalocyanine compounds f, g, j, k and n. There is no teaching in Kimura that a metallocenyl

substituent would have the same effect when bound to the phenyl rings of the phthalocyanine ring system.

In this regard applicants note the examiner's comment in the Advisory Action mailed on July 31, 2003: "This ignores the admission of the applicant with respect to EP 600427 on page 3 of the instant application which indicates that additives including ferrocenes are known in the art to improve the stability/properties of optical recording layers in optical recording media." This is true, but it should be kept in mind that EP 600427 only teaches the incorporation of ferrocenes into optical recording media as additives, not as chemically bound entities to the phenyl rings of the phthalocyanine ring system.

The examiner further asserts "The prior art of record indicates that the ferrocene has a positive impact on the recording layer when attached to the phthalocyanine [= teaching of Kimura where the molecule is bound via a linker to the central metal atom] or present as a separate molecule [= teaching of EP 600427]."

The problem starts here, because the statement that the prior art indicates that the ferrocene has a positive impact on the recording layer when attached to the phthalocyanine is not supported:

a) this statement is too general, because the prior art - i.e. Kimura - describes only ferrocene bound to the central atom; in particular on page 22, lines 34-25 it is stated "...that the axial substituents of the phthalocyanine compounds (a) to (n) have an effect on the improvement of light resistance."

b) Cook does not describe any impact of the ferrocene with regard to optical information media.

c) the examiner is absolutely silent about how a person skilled in the art would combine Kimura and EP'427: a lot of possibilities are possible, e.g. using the linkers disclosed in Kimura et al., or using another group instead of a ferrocene group. Since so many other possibilities are given in Kimura et al., one skilled in the art would not arrive at the instant invention inevitably.

d) Kimura shows e.g. in Table 1 on page 22, that the introduction of a ferrocene group does not lead to an improvement in light resistance, rather,

- as is shown with compound (k) the introduction of two ferrocene groups decreases the light resistance compared to compounds having only one ferrocene group; the same is true when looking at the properties listed in Table 2;

- when comparing the properties of compounds (f) and (g), which differ only in that (g) is chlorinated at a phenyl group, here the chlorinated compound is better. Hence the introduction of chlorine has a much bigger impact than the additional introduction of another ferrocene group;
- compound (n) has the same properties as compound (e), having no ferrocene groups; the improvement compared to (f) is based on the additional phosphorus group;
- compound (j) has the best values, which can be explained by the additional phosphorus group and the chlorinated phenyl group and an additional substitution on the ferrocene group.

Therefore it seems that according to Table 1 and Table 2 (from here it is clear, too, that similar results can be obtained with substituents without ferrocene groups such as compound (e) of Kimura), the improvements are not based on the introduction of ferrocene groups as such, but rather on a specific substitution at the central metal atom, i.e. a specific combination of the ferrocene group in combination with other substituents at the central aluminum atom as well as the chlorination of the phenyl groups of the ring system. In particular the decrease of the properties when introducing a second ferrocene group shows that those groups function in a different way than when ferrocenes are used as an additive as in EP '627.

e) EP '627 uses only additives, which not necessarily have to be ferrocenes. No suggestion can be found therein that the additives can be used as substituents.

Therefore, transferring a ferrocenyl group to a group other than the central atom in a phthalocyanine molecule would not have been obvious at all.

In addition, Kimura is silent with regard to the specific advantages of the metallocenyl substituent. There are also other substituents (see formulae (2) - (5)) that can be used to increase the light resistance. Rather, the only constant unit in Kimura is the -SO₃-unit as well as the phosphorous containing unit. Therefore, a person skilled in the art would assume that these moieties are essential for the observed effect and properties. However, since the compounds used in the claimed process do not have such moieties, it is pure speculation on the part of the examiner to assume that the instant compounds would have similar properties.

Furthermore, it is not the object of the present invention to increase the light resistance.

Any combination of Cook with Kimura would lead to phthalocyanine compounds in which the metallocenyl substituent would be bound to the central aluminum atom having the specific bridging units $(-OP(=O)R_1R_2$ and $-OS(=O)_2-$), which are clearly not claimed in instant claim 8. Or the other way round: the specific substituents of Kimura would be bound at the phthalocyanine's phenyl groups, but having a $-SO_3-$ group as bridging unit, hence, also not corresponding to the instant invention. Phthalocyanine compounds having Cu or Pd as the central atom are unsuggested.

Simply taking Cook's compound and using it as a dye in Kimura's invention would be against the teachings of Kimura. In particular, there is no mention in Cook et al. that the compounds could be used as a dye in optical information media. Rather, Cook et al discuss the redox properties which can be investigated, and mentions that the compounds are liquid crystals. Therefore, there is no motivation for the skilled artisan to use Cook's compound as a dye in Kimura's media. In addition, the examiner has not shown convincingly that a person skilled in the art would have been motivated to do this. The mere mentioning of spectral properties is not sufficient, because this applies to a multitude of other compounds as well. In addition, this argument is also not correct (see below).

In applicants' view, the reference teachings lead into two different directions. When two teachings contradict each other without either having a corrective reference to the other, the two references cannot be combined under 35 U.S.C. § 103. It is not possible in such a situation to predict with confidence that benefit would be found by choosing one route of modification over the other. See *In re Gordon*, 221 USPQ 1125 (CAFC, 1984). However, even if the combination were proper, whatever the combination might suggest, it would not be the invention presently claimed.

Itoh is totally silent with regard to metallocenyl-substituted phthalocyanines. Hence, any combination either with Cook or with Kimura would lead a person skilled in the art into the directions of either Cook or Kimura, but certainly not toward the invention at hand.

In addition, Cook's compounds are not destroyed when in use, while Kimura's and Itoh's compounds are destroyed when irradiated with a laser beam. Therefore, the compounds function differently, and, hence, any combination would be contradictory in itself. See *In re Gordon*, cited *supra*. In addition, Itoh is silent about using ferrocenyl-substituted phthalocyanines. It is applicants' view that the examiner equates the terms "liquid crystal displays" and "liquid crystals" *per se* and tries to use this as a carrier, in order to justify combining both documents. However, even if this were correct, then one

skilled in the art would only use Cook's compounds for the manufacture of liquid crystal displays, but not for the manufacture of optical recording media as presently claimed.

Also, Itoh teaches that dyes that are useful are those which absorb in the range of from 700 to 900 nm, in particular 780 nm (example 1 and 2). Now, if one looks at the spectra shown in Cook et al., it is quite clear that Cook deals with a different range: i.e. most of the absorption is in a range below 700 nm. See for example the left column on page 1715, second paragraph, last sentence: absorptions at 725, 695, 636, 391 etc., hence, there is only one peak above 700 nm. In particular the ferrocenyl moiety absorbs at 238 nm, which is totally outside of Itoh's range. Thus, introducing a ferrocenyl moiety would shift the absorption spectrum into a range which is clearly not preferred in Itoh's teaching. Applicants respectfully submit that the examiner's view that it would have been obvious to do this is incorrect and again based on hindsight. How can it be obvious, from a reference, to ignore its teachings and go off in different directions?

In addition, the examiner applies the teaching of Kimura ("increased resistance to degradation") to the invention at hand, without any evidence that the dyes of the instant invention indeed have the same properties. Exactly the contrary is the case: when the dyes of the claimed process are irradiated with a laser beam (= light!), they then decompose, which leads to a change in the substrate and - in the end - the reflectivity is changed by this process. This is the reason that such discs can be written on when irradiated with a laser beam. Furthermore, the examiner asserts that Cook's compounds or discs are "inherently an optical recording medium" within the bounds of the claims. This argument does not hold any longer with respect to claim 8 as instantly amended.

Finally, any combination of Kimura and Itoh would end up with phthalocyanines having the ferrocenyl group being bound at the central metal atom, because no teaching is given anywhere that the group could be placed anywhere else.

In the Advisory Action mailed on July 31, 2003, the examiner suggests an opportunity to present comparisons to Kimura et al. However Kimura teaches phthalocyanines in which a ferrocenyl moiety is bound to a central aluminum atom via an SO₃ linking group. Such compounds are totally remote from the present novel, patented compounds. As far as the present claims directed to the use of said compounds, the market place has already made the comparisons. The commercial embodiment according to the present invention dominates the optical recording medium market worldwide; not any product according to Kimura et al.

Reconsideration and withdrawal of the rejection of claims 8-11 under 35 U.S.C. 103 as being unpatentable over Cook in view of published European Patent Application 811,506 (Kimora et al.) and U.S. Patent No. 5,124,067 (Itoh et al.) is respectfully solicited in light of the remarks *supra*.

Claims 2-4, 8-9 and 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,399,768. Said rejection is respectfully traversed.

U.S. Patent No. 6,399,768 is the allowed parent application, where restriction was required in paper #12 dated March 20, 2001. In the parent application the examiner correctly held that claims 1 to 5 were directed to phthalocyanine compounds. Said claims were patentably distinct from original process claim 7 and claims 8-11, directed to an optical information medium. The instant claims are directed to this withdrawn, cancelled subject matter. Applicants aver that a double patenting rejection cannot be made over patentably distinct subject matter. Such rejections are prohibited by 35 USC § 121 and therefore improper. Reconsideration and withdrawal of this rejection is therefore seen to be in order.

Since there are no other grounds of objection or rejection, passage of this application to issue with claims 2-4 and 8-23 is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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Enclosure: Petition for Extension of Time

AUG 21 2003